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APPLICANT : SANYO ELECTRIC CO LTD;

INVENTOR : FURUKAWA SANEHIRO;

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TITLE : SOLID ELECTROLYTE AND LITHIUM BATTERY USING THE SAME

ABSTRACT : PURPOSE: To obtain a solid electrolyte of high ion conductivity and a lithium battery using it which excels in high-rate discharge characteristic by using a solid electrolyte including a granulelike electrolyte of a large Li content.

CONSTITUTION: A lithium ion conducting solid electrolyte is constituted by sintering a granule-like electrolyte (1) represented by the general formula (1)

$$\text{Li}_{1+(4-n)x} \text{M}_x \text{Ti}_{2-x} (\text{PO}_4)_3$$
 (where M is univalent or bivalent cation, when M is univalent cation, $n=1$, when M is bivalent cation, $n=2$, x is 0.1 to 0.5). For concrete example of M in the formula, Na^+ , K^+ , Rb^+ , Cs^+ , Cu^+ are exemplified for univalent cation, and Mg^{2+} , Fe^{2+} , Be^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Ra^{2+} , Mn^{2+} , Co^{2+} , Cu^{2+} , Ni^{2+} , Zn^{2+} , Cd^{2+} are exemplified for bivalent cation.

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